

Public Comments to CA DWR draft "Sustainability Outlook Indicator Descriptions and Methodology"

George Kunkel Jr <kunkelwaterefficiency@gmail.com>

Sun 1/20/2019 10:00 AM

To: DWR CWP Comments <cwpcom@water.ca.gov>;

Attn: Francisco Guzman

Thank you for the opportunity to comment on the draft version of the above report which is very comprehensive and well constructed.

I am providing comments on pages 4-88 through 4-20 only. These pages address "Distribution System Leaks and Losses".

Please note that I serve as chair of the publishing subcommittee for the M36 guidance manual, *Water Audits and Loss Control Programs*, published by the American Water Works Association (AWWA) and am a co-author of the AWWA Free Water Audit Software. I also currently chair the AWWA Non-revenue water (NRW) Performance Indicators Task Force (PITF) which is in the process of investigating and establishing new AWWA policy on the use of appropriate indicators for NRW assessments. This new policy should have particular relevance for California water utilities.

COMMENTS

1. The language, approach, and recommendations put for in the section "Distribution System Leaks and Losses" overall is limited, dated, and cursory. It seems to reflect the thinking and approach to NRW assessments from over 20 years ago. A major body of work has been completed by AWWA and the Water Research Foundation since this time to greatly advance the science and methodology for NRW control; yet it appear the the authors of the section are unfamiliar with any of it. If the "Sustainability" report is to hold relevance in the section on utility NRW, then the authors should become versed in current best practice for water loss control. The authors should reference information at the below link to launch their research.

<https://www.awwa.org/Resources-Tools/Resources/Water-Loss-Control>

2. Non-revenue Water includes apparent losses, real losses, and unbilled authorized consumption, but the section does not bear this out. The term "losses" is employed loosely without clear definition; although the context appears to be referring to real (leakage) losses. The lack of clear distinction regarding the types of losses make the section less coherent.

3. The target outcome is listed as "zero distribution system leaks and losses". This is physically impossible to attain and does not exist in any regulatory process where best practice is employed. The current best thinking refers to the "economic level" of real and apparent loss control, which varies across systems due to unique costs incurred by each system. Again, the authors need to familiarize themselves with current best practice thought on realistic loss control target-setting.

4. The authors refer to "leak detection" in parts and "leak detection and repair" in other parts, seemingly as if this is the sole means to address "losses". More holistically, "leakage management" includes a number of activities to control real (leakage) losses. These include leak detection and repair, but also, pressure management, use of District Metered Areas, effective policy and procedure to assure timely repairs, and pipeline and service connection replacement and/or rehabilitation. A number of separate methods exist to control apparent losses. Leak detection work alone, especially on plastic piping such as PVC, may leave many leaks undetected, but some of the other methods exist to address this. Thus, leak detection alone is often insufficient.

5. The language refers to "distribution systems with a high percentage of water loss"; however percentage indicators are known to be imprecise and misleading, and AWWA is moving away from advocating any use of these indicators. The normalized indicator, in gallons per service connection per day has great value and should be investigated by the authors.

In summary, the language in the section on "Distribution System Leaks and Losses" is limited, dated, and not workable. This section should be expanded and rewritten, but only after the authors have acquired good familiarity with current best practice in water loss control.

Thank for the opportunity to comment on this important report.

1/22/2019

Mail - cwpcom@water.ca.gov

Sincerely,

--

George Kunkel, P.E.
Principal
Kunkel Water Efficiency Consulting
215-460-0662